

WHAT IS CLAIMED IS:

1. A hearing aid device configured to wirelessly transmit data between the hearing aid device and a further device, comprising:

a microphone configured to acquire an acoustic input signal and transduce it into an electrical signal;

a signal processing and control unit configured to process the electrical signal;

a receiver configured to transduce the electrical signal into an acoustic signal;  
and

an antenna coil that is wound around the receiver or the microphone, the antenna coil being configured to implement the wireless transmission of data.

2. A hearing aid device configured to wirelessly transmit data between the hearing aid device and a further device ,comprising:

a microphone configured to acquire an acoustic input signal and transduce it into an electrical signal;

a signal processing and control unit configured to process the electrical signal;

a receiver configured to transduce the electrical signal into an acoustic signal;  
and

at least one of a shielding plate or a shielding capsule that encloses the receiver, the antenna coil being wound around the shielding plate or the shielding capsule.

3. The hearing aid device according to claim 2, wherein the shielding capsule is comprised of ferrite material, mu-metal, or an iron sheet.

4. The hearing aid device according to claim 1, further comprising:

a compensator configured to compensate a noise signal generated by the receiver and transmitted to the antenna coil.

5. The hearing aid device according to claim 4, wherein the compensator comprises a compensation coil configured to compensate the electromagnetic field generated by the receiver.

6. The hearing aid device according to claim 5, further comprising:

at least one of a shielding plate or a shielding capsule that encloses the receiver, the antenna coil being wound around the shielding plate or the shielding capsule, wherein the compensation coil is wound around the receiver, the shielding plate, or the shielding capsule.

7. The hearing aid device according to claim 5, wherein the antenna coil and the compensation coil are implemented as a coil comprising a center tap.

8. The hearing aid device according to claim 5, further comprising:

a compensation circuit that modifies an electric receiver input signal according to at least one of an amplitude and phase and feeds into the compensation coil.

9. The hearing aid device according to claim 8, wherein the compensation circuit is an active filter.

10. The hearing aid device according to claim 8, wherein the compensation circuit is a passive filter.

11. The hearing aid device according to claim 9, wherein the filter comprises filter parameters that can be statically selected.

12. The hearing aid device according to claim 10, wherein the filter comprises filter parameters that can be statically selected.

13. The hearing aid device according to claim 9, wherein the filter comprises an adjustment mechanism configured to permit filter parameters to be adaptively adjusted during operation.

14. The hearing aid device according to claim 10, wherein the filter comprises an adjustment mechanism configured to permit filter parameters to be adaptively adjusted during operation.

15. The hearing aid device according to claim 4, further comprising an electronic compensator configured to compensate to noise signal generated by the receiver and transmitted to the antenna coil.

16. The hearing aid device according to claim 15, further comprising a subtraction filter to compensate the noise signal generated by the receiver and transmitted to the antenna coil.